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08/865,962 05/30/97 NIELSEN

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EXAMINER

I.E.O.  
ART UNIT

PAPER NUMBER

2757  
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
08/865,962

Applicant(s)  
Jakob NIELSEN

Examiner  
Quoc-Khanh Le

Group Art Unit  
2757

☒ Responsive to communication(s) filed on May 17, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 3-7 and 9-22 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 3-7 and 9-22 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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### **DETAILED ACTION**

1. This office action is responsive to the Amendment filed on 5/17/00. Claims 3-7 and 9-22 are pending for examination. Claims 2 has been canceled. Claims 3, 16 and 22 have been amended.
2. Claim 16 has been amended. Therefore, the rejection under 35 U.S.C. 112, 2nd paragraph in the previous Action is withdrawn.

### ***Information Disclosure Statement***

3. The information disclosure statement filed on 5/16/00 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the form PTO-1449 and copies are not submitted (the European search report dated 2/16/00 listed more than 3 references on the IDS filed on 6/4/99). It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

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*Response to Arguments*

4. Applicant's arguments have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (pages 4-9), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Tobagi teaches that video data may be assigned to the class of the highest priority and other types of data, such as transactional data, would be assigned to classes of lower priority [col. 10, lines 6-11]. Further, HTML, style sheet, GIF, and JPEG format are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to assign priorities based on HTML, style sheet, GIF, JPEG formats, as evidenced by Vaid et al., U.S. patent 6,047,322 [col. 6, lines 1-10; col. 7, lines 30-40], or as evidenced by Nielsen, U.S. patent 5,826,031 [Summary of the invention].

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Further, Gotwald (U.S. patent 5,987,518) teaches connections with priorities based on source IP address, destination IP address, data types, connection types [col. 4, line 55 to col. 5, line 21].

Furthermore, Shaffer (U.S. patent 5,673,253) teaches that a bandwidth reallocation is triggered, when a preselected maximum threshold is reached or exceeded [Abstract].

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Tobagi teaches a throttler providing appropriate bandwidths based on priorities according to data types [Abstract]. On the other hand, Hahne teaches bandwidth balancing with multi-priority-traffic [Abstract]. Shaffer teaches dynamic allocation of telecommunications resources (i.e. bandwidths) based on a hierarchy of classes of service (priorities). Therefore, Examiner is in the opinion that the combined rejections are reasonable.

With all above reason, the rejections of claims 3-7 and 9-22 are maintained.

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*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-7, 9-13, and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobagi et al., U.S. 5,381,413 ("Tobagi").

As to claim 3, Tobagi teaches a system [figs. 1-3], comprising:

a bus (bus 12);

at least one communication interface connected to the bus (network interface circuit 26);

and

a processor (CPU 14) connected to the bus, the processor configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]), wherein the one set of priorities comprises priorities based on type of information being retrieved [col. 10, lines 6-11].

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Tobagi does not explicitly disclose that type of information includes at least one of information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format. However, Tobagi teaches that video data may be assigned to the class of the highest priority and other types of data, such as transactional data, would be assigned to classes of lower priority [col. 10, lines 6-11]. Further, HTML, style sheet, GIF, and JPEG format are well known in the art. Therefore, one of ordinary skill in the art would have been motivated to modify Tobagi in order to enable Tobagi's system handle most common information formats.

As to claim 4, Tobagi teaches a system [figs. 1-3], comprising:

a bus (bus 12);

at least one communication interface connected to the bus (network interface circuit 26);

and

a processor (CPU 14) connected to the bus, the processor configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Tobagi does not teach that one set of priorities comprises priorities based on how fast user connection can receive information. However, a faster connection transmits more data (needs a higher bandwidth) than a slower connection. Therefore, it would have been obvious to modify

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Tobagi's system by allocating bandwidth based on the speed of a user connection in order to make the system runs well in an environment with different connection speeds.

As to claim 5, Tobagi teaches a system [figs. 1-3], comprising:

a bus (bus 12);

at least one communication interface connected to the bus (network interface circuit 26);

and

a processor (CPU 14) connected to the bus, the processor configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Tobagi does not teach that one set of priorities comprises priorities based on which part of a document is being transmitted. However, Tobagi teaches that priorities can be based on data types (see claim 2) and parts of a document can contain different data types (text, image, etc.). Therefore, one of ordinary skill in the art would have been motivated to modify Tobagi's system in order to make Tobagi's system more universal.

As to claim 6, Tobagi teaches a system [figs. 1-3], comprising:

a bus (bus 12);



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at least one communication interface connected to the bus (network interface circuit 26);  
and

a processor (CPU 14) connected to the bus, the processor configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Tobagi does not teach that one set of priorities comprises priorities based on user identify. However, it would have been obvious that in a pay system, a user paying a higher fee can have a faster connection than a user paying a lower fee. Therefore, similarly to claim 4, one of ordinary skill in the art would have been motivated to modify Tobagi's system in order to make the system more universal.

As to claim 7, Tobagi teaches a system [figs. 1-3], comprising:

a bus (bus 12);

at least one communication interface connected to the bus (network interface circuit 26);

and

a processor (CPU 14) connected to the bus, the processor configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

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Tobagi does not teach that one set of priorities comprises priorities based on stored indicia indicating importance of the document. However, it would have obvious that an important document should be transmitted in a shorter time as possible in order to secure the document. Therefore, one of ordinary skill in the art would have been motivated to modify Tobagi in order to enhance the security of Tobagi's system.

As to claim 9, Tobagi teaches a system [figs. 1-3], comprising:

a bus (bus 12);

at least one communication interface connected to the bus (network interface circuit 26);

and

a processor (CPU 14) connected to the bus, the processor configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Tobagi does not teach that one set of priorities comprises priorities based on the state of application running on the processor. However, it would have obvious that a sleeping/waiting process does not transmit a lot of data as an active process. Therefore, one of ordinary skill in the art would have been motivated to modify Tobagi so that priorities based on state of application process in order to enhance the functionality of Tobagi's system.

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As to claims 10 and 11, claim 10 and 11 have the similar limitations as claim 9 and therefore are rejected under the same rationale.

As to claim 12, Tobagi teaches a system [figs. 1-3], comprising:

providing an element for allocating communications bandwidth at a server to a plurality of user connections based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Although Tobagi does not explicitly show that stations 13 can be user systems, it would have been obvious that using stations 13 as user systems depends merely on the environment, wherein Tobagi's teaching is applied, but does not have any effects on the allocating bandwidth on communication line 17 based on a set of priorities.

As to claim 13, claim 13 has the similar limitations as claim 3(type of information), claim 4 (how fast user connection), claim 5 (which part of a documentation), claim 6 (user identity), claim 7 (stored indicia indicating importance of the document), and therefore is rejected under the same rationale.

As to claim 17, Tobagi teaches a system [figs. 1-3], comprising:

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providing an element for allocating communications bandwidth at a server to a plurality of user connections based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Although Tobagi does not explicitly show that stations 13 can be server systems, it would have been obvious that using stations 13 as server systems depends merely on the environment, wherein Tobagi's teaching is applied, but does not have any effects on the allocating bandwidth on communication line 17 based on a set of priorities.

As to claim 18, claim 18 has the similar limitations as claim 9 and therefore is rejected under the same rationale.

As to claim 19, Tobagi teaches a system [figs. 1-3], comprising:

a network [fig. 3, communication link 17];

at least one server connected to the network [station 13];

at least one computer running at least one process connected to the network [fig. 10, network adapter 10], in which the at least one server or the at least one computer allocates bandwidth to a plurality of network connections based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Although Tobagi does not explicitly show that stations 13 can be server systems, it would have been obvious that using stations 13 as server systems depends merely on the environment,

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wherein Tobagi's teaching is applied, but does not have any effects on the allocating bandwidth on communication line 17 based on a set of priorities.

As to claim 20, claim 20 has the similar limitations as claim 13 and 9, and therefore is rejected under the same rationale.

As to claim 21, Tobagi teaches a system [fig. 1-3], comprising:

a memory medium [main memory 16, disk memory 18];

a computer program, stored on the memory medium, the computer program comprising instructions for allocating communications bandwidth based on at least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Although Tobagi does not explicitly show that stations 13 can be server and user systems, it would have been obvious that using stations 13 as server or user systems depends merely on the environment, wherein Tobagi's teaching is applied, but does not have any effects on the allocating bandwidth on communication line 17 based on a set of priorities.

As to claim 22, Tobagi teaches a system [fig. 1-3], comprising:

a memory medium [main memory 16, disk memory 18];

a computer program, stored on the memory medium, the computer program comprising instructions for allocating communications bandwidth to communications connections based on at

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least one set of priorities (throttler transmits packets according to priority classes [col. 8, line 41 to col. 10, line 5]).

Tobagi does not teach that the set of priorities includes at least one of: how fast user connections can receive information, which part of document is being transmitted, user identity and stored indicia indicating the importance of the document. However, a faster connection transmits more data (needs a higher bandwidth) than a slower connection. And it would have been obvious that in a pay system, a user paying a higher fee should have a faster connection than a user paying a lower fee. And it would also have been obvious that an important document should be transmitted in a shorter time as possible in order to secure the document. Further, Tobagi teaches that priorities can be based on data types (see claim 2) and parts of a document can contain different data types (text, image, etc.). Therefore, it would have been obvious to modify Tobagi's system by allocating bandwidth based on the speed of a user connection in order to make the system runs well in an environment with different connection speeds; by allocating bandwidth based on the importance of the information in order to enhance the security of Tobagi's system; by allocating bandwidth based on parts of a transmitted document, user identity in order to make the system more universal.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tobagi et al., U.S. 5,381,413 ("Tobagi") in view of Hahne et al., U.S. 5,115,430 ("Hahne").

Tobagi teaches most of the claimed limitations as applied to claim 12 above. However, Tobagi does not explicitly show that bandwidth is allocated to a user connection based on the

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ratio of priority that user connection bears to the sum of priorities of all user connections. On the other hand, Hahne teaches fair access of multi-priority traffic, wherein parcels of the same priority get the same bandwidth and parcels of different priorities are offered bandwidth in proportion to their bandwidth balancing factors [col. 7, equation 13, lines 30-34; col. 8, lines 22-26]. Given the teaching of Hahne, it would have been obvious to one of ordinary skill in the art to modify Tobagi in order to allocate bandwidths in proportion to priorities of user connections.

Tobagi does not teach that one set of priorities comprises priorities based on user identify. However, it would have been obvious that in a pay system, a user paying a higher fee can have a faster connection than a user paying a lower fee. Therefore, similarly to claim 4, one of ordinary skill in the art would have been motivated to modify Tobagi's system in order to make the system more universal.

8. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobagi et al., U.S. patent 5,381,413 ("Tobagi"), in view of Shaffer, U.S. 5,673,253.

As to claim 15, Tobagi does not explicitly teach that bandwidth allocation is recalculated on an event driven basis. Shaffer teaches dynamic allocation of telecommunication resources: if the availability of resources is detected as being below a predetermined threshold level, bandwidth reallocation is triggered [col. 3, lines 24-30; col. 6, lines 1-9]. Given the teaching of Shaffer, one

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of ordinary skill in the art would have been motivated to modify Tobagi in order to get the quality of service or bandwidth up-to-date with the current events.

As to claim 16, Shaffer teaches that bandwidth of one or more established sessions may be reduced to avoid a blockage condition [col. 3, lines 24-30; col. 6, lines 1-9]. Therefore, it would have been obvious that arrival of a new request for retrieval will according to Shaffer trigger a recalculation of bandwidth in order to ensure free bandwidth for subsequent requests.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gotwald, Method and apparatus for communicating Internet protocol data over a broadband MPEG channel, U.S. patent 5,987,518.

Vaid et al., Method and apparatus for quality of service management, U.S. patent 6,047,322.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**



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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Q.-K. Le whose telephone number is (703) 305-0141, e-mail address quoc.le@uspto.gov. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess, can be reached on (703) 305-4792.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9700.

Q.-K. Le

Patent examiner

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GLENTON B. BURGESS  
SUPERVISORY PATENT EXAMINER  
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